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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,980	12/01/2003	Radoslav Danilak	NVID-P000817	4928

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EXAMINER

LEE, CHUN KUAN

ART UNIT	PAPER NUMBER
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2181

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/725,980

Applicant(s)

DANILAK, RADOSLAV

Examiner

Chun-Kuan (Mike) Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
11/15/2006

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/15/2006 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. Currently, claims 1-20 are pending for examination.

Drawings

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Wood et al. (US Patent 6,915,363).

5. As per claims 1, 9 and 14, AAPA teaches a computer system and method comprising:

a processor (Drawings, Fig. 1, ref. 101);

a system memory (Drawings, Fig. 1, ref. 103) coupled to the processor;

a bridge component (Drawings, Fig. 1, ref. 102, 105) coupled to the processor;

and

a disk controller (Drawings, Fig. 1, ref. 107) coupled to the bridge component;

preparing disk transaction information by packaging a plurality of PRD (physical region descriptor) data structures and a plurality of CPB (command parameter block) data structures comprising the disk transaction (Specification, page 4, ll. 9-22);

transferring the disk transaction information to the disk controller via the bridge component (Specification, page 4, ll. 22-24), wherein the bridge component is accessed as the disk transaction information is transferred;

implementing a disk I/O (e.g. disk transaction), wherein the disk controller processes the disk transaction information to control the disk drive (Specification, page 4, ll. 22-24).

AAPA does not teach the computer system and method for implementing a bypass method for efficient disk I/O (input output), comprising:

transferring a command to the disk controller, the command causing a start up of the disk drive coupled to the disk controller;

subsequent to transferring the command causing the startup, preparing disk transaction information; and

the disk controller including a plurality of bypass registers for receiving the disk transaction information.

Wood teaches a system and method comprising:

transferring a start command to a disk drive (Fig. 3, ref. 318) via a subsystem controller (Fig. 3, ref. 314), wherein the start command cause a start up of the disk drive (col. 1, ll. 51-54; col. 2, ll. 15-21; col. 6, ll. 11-26 and col. 6, ll. 40-47);

after transferring the start command, data would then be transferred to the disk drive (col.1, ll. 24-54 and col. 2, ll. 15-21), as the transferring of data would require the disk drive to be brought up to the proper operating speed; and further more, as the

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transferring of the start command is implemented prior to the preparing of data for transferring, the start up latency of the disk drive is then hidden; and

the disk drive includes a buffer (Fig. 2, ref. 210) for receiving data transferred from a host computer (Fig. 2, ref. 200) (col. 4, ll. 50-52).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Wood's start command and buffer into AAPA's computer system and method for transferring data. The resulting combination of the references further teaches computer system and method for implementing a bypass method for efficient disk I/O, comprising:

transferring the start command to the disk controller, then to the disk drive, wherein the start command causes the disk drive coupled to the disk controller to start up;

after transferring the start command to the disk drive, data including the disk transaction information is prepared and transferred; and

the disk controller including a plurality of buffers for receiving the disk transaction information from the host computer .

Therefore, it would have been obvious to combine Wood with AAPA for the benefit of provide greater control for the start up of ATA disk drive (col. 2, ll. 55-59).

6. As per claim 2, AAPA and Wood teach all the limitation of claim 1 as discussed above, where AAPA teaches the method for disk I/O in the computer system further comprising:

preparing the disk transaction information by using a processor of the computer system (AAPA, Specification, page 4, ll. 13-14); and

transferring the disk transaction information from the processor to the disk controller (AAPA, Specification, page 4, ll. 19-22).

7. As per claim 3, AAPA and Wood teach all the limitation of claim 3 as discussed above, where AAPA teaches the method for disk I/O in the computer system further comprising accessing a bus coupled to the disk controller to transfer the disk transaction information from the processor to the disk controller (AAPA, Drawings, Fig. 1 and Specification, page 4, ll. 19-22).

8. As per claim 4, AAPA and Wood teach all the limitation of claim 3 as discussed above, where AAPA teaches the method for disk I/O in the computer system further comprising accessing the bridge component (AAPA, Drawings, Fig. 1, ref. 102, 105) controlling the bus coupled to the disk controller and transferring the disk transaction information from the processor to the disk controller via the bridge component (AAPA, Drawings, Fig. 1 and Specification, page 4, ll. 19-22).

9. As per claim 5, AAPA and Wood teach all the limitation of claim 4 as discussed above, where AAPA teaches the method for disk I/O in the computer system further comprising wherein the bridge component is a South bridge (AAPA, Drawings, Fig. 1, ref. 105) of the computer system.

10. As per claim 6, AAPA and Wood teach all the limitation of claim 1 as discussed above, where Wood teaches the method for disk I/O in the computer system further comprising wherein the transferring of the command to the disk controller causing the start up of the disk drive is configured to hide a start up latency of the disk drive (Wood, col. 1, ll. 51-54; col. 2, ll. 15-21; col. 6, ll. 11-26 and col. 6, ll. 40-47), as the start command is transferred before the preparing and transferring of data such as the disk transaction information, the start up latency of the disk drive would then be hidden.

11. As per claim 7, AAPA and Wood teach all the limitation of claim 1 as discussed above, where Wood teaches the method for disk I/O in the computer system further comprising wherein the disk transaction information includes a plurality of PRD (physical region descriptor) data structures and a plurality of CPB (command parameter block) data structures for implementing the disk transaction (AAPA, Specification, page 4, ll. 15-22).

12. As per claim 8, AAPA and Wood teach all the limitation of claim 1 as discussed above, where both teach the method for disk I/O in the computer system further comprising wherein the disk drive is compatible with a version of the ATA standard (AAPA, Specification, page 3, ll. 13-14; page 4, ll. 13-14 and Wood, col. 2, ll. 55-59).

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13. As per claim 10, AAPA and Wood teach all the limitation of claim 9 as discussed above, where AAPA teaches the computer readable media further comprising wherein the bridge component is a South bridge (AAPA, Drawings, Fig. 1, ref. 105) of the computer system.

14. As per claim 11, AAPA and Wood teach all the limitation of claim 10 as discussed above, where AAPA teaches the computer readable media further comprising:

accessing a North bridge (AAPA, Drawings, Fig. 1, ref. 102) to transfer the disk transaction information (AAPA, Specification, page 4, ll. 19-22); and

transferring the disk transaction information from the processor to the disk controller via the North bridge (AAPA, Drawings, Fig. 1, ref. 102) and the South bridge (AAPA, Drawings, Fig. 1, ref. 105) of the computer system (AAPA, Specification, page 4, ll. 19-22).

15. As per claim 12, AAPA and Wood teach all the limitation of claim 9 as discussed above, where Wood teaches the computer readable media further comprising wherein the transferring of the command to the disk controller causing the start up of the disk drive is configured to hide a start up latency of the disk drive (Wood, col. 1, ll. 51-54; col. 2, ll. 15-21; col. 6, ll. 11-26 and col. 6, ll. 40-47), as the start command is transferred before the preparing and transferring of data such as the disk transaction information, the start up latency of the disk drive would then be hidden.

16. As per claim 13, AAPA and Wood teach all the limitation of claim 9 as discussed above, where both teach the computer readable media further comprising wherein the disk drive is compatible with a version of the ATA standard (AAPA, Specification, page 3, ll. 13-14; page 4, ll. 13-14 and Wood, col. 2, ll. 55-59).

17. As per claim 15, AAPA and Wood teach all the limitation of claim 14 as discussed above, where AAPA teaches the computer system further comprising:
preparing the disk transaction information by using a processor of the computer system (AAPA, Specification, page 4, ll. 13-14); and
transferring the disk transaction information from the processor to the disk controller (AAPA, Specification, page 4, ll. 19-22).

18. As per claim 16, AAPA and Wood teach all the limitation of claim 14 as discussed above, where AAPA teaches the computer readable media further comprising wherein the disk controller (AAPA, Drawings, Fig. 1, ref. 107) is integrated within bridge component (AAPA, Drawings, Fig. 1, ref. 105).

19. As per claim 17, AAPA and Wood teach all the limitation of claim 14 as discussed above, where AAPA teaches the computer system further comprising wherein the bridge component is a South bridge (AAPA, Drawings, Fig. 1, ref. 105) of the computer system.

20. As per claim 18, AAPA and Wood teach all the limitation of claim 14 as discussed above, where Wood teaches the computer system further comprising wherein the transferring of the command to the disk controller causing the start up of the disk drive is configured to hide a start up latency of the disk drive (Wood, col. 1, ll. 51-54; col. 2, ll. 15-21; col. 6, ll. 11-26 and col. 6, ll. 40-47), as the start command is transferred before the preparing and transferring of data such as the disk transaction information, the start up latency of the disk drive would then be hidden.

21. As per claim 19, AAPA and Wood teach all the limitation of claim 14 as discussed above, where AAPA teaches the computer system further comprising wherein the disk transaction information includes a plurality of PRD (physical region descriptor) data structures and a plurality of CPB (command parameter block) data structures for implementing the disk transaction (AAPA, Specification, page 4, ll. 15-22).

22. As per claim 20, AAPA and Wood teach all the limitation of claim 14 as discussed above, where both teach the computer system further comprising wherein the disk drive is compatible with a version of the ATA standard (AAPA, Specification, page 3, ll. 13-14; page 4, ll. 13-14 and Wood, col. 2, ll. 55-59).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.K.L.
11/14/2006


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